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Current
Day

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

SEPTEMBER 15, 1935



KOELREUTERIA PANICULATA

Shade Tree Conference
Revive Texas Association
Southern Convention

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AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

F. R. KILNER, Editor

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RELIEF FROM TAXATION.

The efforts of the Texas Association of Nurserymen to obtain relief from the local taxation of nursery stock must draw the attention of the trade in other states where personal property assessments create a similar condition.

The legislative fathers' idea, in bygone days, was that taxation of personal property was a parallel to the taxation of real estate. Whether sound in theory or not, the personal property tax was never successful in practice. Those who levy the tax, as well as those who pay it, have recognized the injustices which have come about through personal property assessments. Undoubtedly, that type of tax will eventually be abandoned for a better tax, whether it is income tax, sales tax or something else. But in these days, when additional taxation is sought, not a reduction in levies, this tax will continue with us.

Nurserymen have every reason to ask relief. In other government legislation and regulations, they are considered as farmers. Yet because their farming is of a most intensive type, they have been segregated in some respects, as in personal property assessments. Yet there is no reason why nursery stock, being a farm product, should be taxed in this way any more than any other farm crop, whether corn, wheat, cotton, rice, etc. Nursery stock is subject to the same hazards of nature, such as inclement weather, disease, insects and the like. Moreover, nurserymen must plant for a market which is, not a single season, but several years ahead, and by the time of marketing the stock may be undesirable or in such oversupply as to be of little value.

Many tax assessors do not levy on nursery stock because they personally realize the difficulty of fair appraisal and the consequent injustice done. So some nurseries are taxed on their stock and some are not, a further reason for the elimination of this type of levy.

These objections are sound, but because of the nature of state laws or tax regulations, it is usually necessary to go to the legislature to obtain relief. As a matter of fairness and justice, state associations may well take upon them-

selves the effort necessary to obtain action from their lawmakers.

INDORSING REVITALIZATION.

Leading the movement to bring state organizations into a coordinated plan of action toward consummating the objects of the revitalization plan submitted to the American Association of Nurserymen, the Pennsylvania Nurserymen's Association last month passed resolutions authorizing the executive committee to appoint, with power, representatives of the state association at the rate of one for every fifty members or fractional part of that number, the duty of such representatives being to work with similar groups from other state or sectional organizations or with the A. A. N. The resolutions were printed in the September 1 issue.

Further progress in that direction was indicated by the passing of identical resolutions at the meeting of the Texas Association of Nurserymen on September 5, as reported in this issue.

If the appointment of such representatives is followed with action necessary to get together the various groups in a united movement, there is possibility of wider membership and more representative service to the industry in our organizations.

In different form, but with the same intent, the following resolutions were passed at a meeting August 26 of the Greater Cincinnati Nurserymen's Association, composed of thirty-six nurserymen of the Cincinnati area:

Whereas, the nursery industry of America is not adequately served by the American Association of Nurserymen as now organized, and

Whereas, a proposal for the reorganization of the American Association of Nurserymen has been studied by a committee during the past two years, and

Whereas, our association desires to see the American Association of Nurserymen more representative of the thousands of nurserymen in America and of greater service to them; now, therefore,

Be it resolved, that the Greater Cincinnati Nurserymen's Association indorses, in principle, the proposed reorganization of the American Association of Nurserymen, and

Be it further resolved, that the Greater Cincinnati Nurserymen's Association is willing to cooperate with other groups, local, state and regional, to accomplish the reorganization.

FARMERS PLANT MORE TREES.

The advertising value of the spectacular cannot be denied. Nurserymen and agricultural extension workers for years have advocated planting trees on farms for windbreaks or wood lots, with some results, but nothing like those that have followed the newspaper accounts of the huge shelterbelt in the plains states proposed by the federal government. Spectacular in its conception, the huge shelterbelt project, whether it is ever completed or not, will unquestionably create a greater demand for trees from farmers than nurserymen could have achieved with their most effective advertising.

Some indication as to the increased interest comes from the reports of state foresters. In Idaho there was an increase of thirty per cent in the number of cooperative farm tree plantings this spring over last year. The farmers of southern Idaho planted approximately 110,000 trees for either windbreaks or wood lots. Many farmers were inter-

ested, but placed their orders too late to get trees.

Similar reports come from other states. Of course, where the state nurseries and the extension foresters have been most generous of trees and time, the planting by farmers has been most extensive. Nurserymen are feeling an effect on their sales, and there will be greater interest in proportion to the trade's efforts to encourage and educate the farmers in tree planting.

KOELREUTERIA PANICULATA.

With fall officially near at hand, it will not be long before the glossy, light green leaves of *Koelreuteria paniculata* turn to golden brown. The other outstanding characteristics of this small ornamental tree are its large plumes of yellow flowers produced freely during July and August, followed by conspicuous, top-shaped, bladder-like pods, and its attractive, pinnately divided foliage. The plumes are erect, terminal, much-branched panicles a foot or more high. The showy inflorescence can be seen in the front cover illustration.

Because this tree withstands drought and hot winds well, it is frequently grown as a decorative tree in the central west from Missouri and Kansas southward. It is of doubtful hardiness farther north in that section of the country, though it is grown in Massachusetts in the east. However, during severe winters it is sometimes killed back badly in the Bay state. Where it is hardy, it will be found useful in cities, because it tolerates their adverse growing conditions.

Although the *koelreuteria* is known by such common names as pride of India, China tree and varnish tree, the preferable one is goldenrain tree, the three first-mentioned names being more correctly applied to other plants.

Thirty feet is about the maximum height of the *koelreuteria*, and it is rather short-lived. The preferable method of propagation is by seeds, which are ordinarily freely produced. They should be sown in autumn or stratified over winter and planted in spring. Reproduction can also be accomplished with root cuttings and softwood cuttings taken in spring and rooted in outdoor frames.

CANDOKA PEACH.

When the office staff last week put their teeth into samples of Candoka, they felt like echoing the introducers in calling it "the perfect peach," for its coloring, flavor and firmness after having been shipped halfway across the continent. The fruit came from the Columbia & Okanogan Nursery Co., Wenatchee, Wash. A. T. Gossman, president and manager, says the company is harvesting about 1,000 boxes from its own orchards, and the first picking sold through a Seattle commission house for \$1.50 per box wholesale on the same date that Elberta sold for \$1 per box.

The variety Candoka is protected by plant patent No. 51. Propagation rights are held by Buntings' Nurseries, Selbyville, Del.; Cole Nursery Co., Painesville, O., and Vienna Nursery, Vienna, Ill.

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[Registered U. S. Patent Office]

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Vol. LXII

SEPTEMBER 15, 1935

No. 6

Helps on Handling Shade Trees

Report of Recent National Shade Tree Conference Includes Summaries of Addresses Containing Valuable Suggestions for Those in Landscape Work

An attendance of nearly 300 persons was attracted to the sessions of the eleventh National Shade Tree Conference, at Philadelphia, August 28 to 30. The meetings, in the Broadwood hotel, were featured by a program conceded to have been one of the best of the series, experts in a number of fields addressing the group on a variety of important topics, among which were many of interest to nurserymen.

The group was welcomed by A. L. Devine, of the Philadelphia chamber of commerce. President Rush P. Marshall, New Haven, Conn., responded for the arborists. A program of addresses occupied the rest of the morning and afternoon, and in the evening a joint session was held with the Philadelphia branch of the National Gardeners' Association. On the second day, the morning was devoted to papers presented in abstract form, and in the evening the group met with the Pennsylvania Horticultural Society. The final morning was also filled with talks, while the annual banquet featured the last evening. Afternoon periods were devoted to demonstrations and tours.

Business Sessions.

Business sessions were held in connection with the luncheon periods. A constitution and by-laws were adopted and the membership basis was broadened. The election of officers resulted as follows: President, Dr. Rush P. Marshall, of Yale University, New Haven, Conn.; vice-president, Dr. C. C. Hamilton, of the New Jersey experiment station, New Brunswick, N. J., and secretary-treasurer, Dr. R. P. White, of the New Jersey experiment station. A monthly bulletin was proposed.

Addresses.

"Municipal Street Trees" was the topic of the first talk, by Carl Bannwart, shade tree commissioner of Newark, N. J. Mr. Bannwart stated that hardiness, straightness of growth, drought resistance, freedom from insects and diseases, the quality and amount of shade, cleanliness and longevity were the main points to observe in selecting street trees. Five trees recommended were Norway maple, pin, red and scarlet oak and oriental plane. The honey locust, ginkgo and silver linden were said to be worth a more extensive trial. The importance of having a shade

tree commission in cities to supervise tree planting and maintenance was stressed. The need of proper planting was emphasized. The New Jersey commission plants trees in holes that are dug 3x3 feet and three and one-half feet deep. A reference was made to the fact that in Munich, Germany, an underground water system has been installed to aid in the care of many street trees.

In discussing "Preservation of Shade Trees from Wooded Areas," R. M. Weakley, of the Howard Tree Expert Co., Warren, Pa., emphasized the fact that it is a wise move in many cases to convince an estate purchaser to locate in a valley where water, trees and pleasing views are available rather than on a hill where considerable expense must be incurred in drilling for water and moving in trees. In such cases, topsoil usually has to be hauled in and even then plants never flourish like those in better situations.

Scientific Data.

A. P. Beilmann, of the Missouri Botanical Garden, St. Louis, Mo., gave some interesting facts on "The Use of Instruments in Tree Diagnosis." The dendrograph and thermograph were said to be useful. With the dendrograph, the rhythmic change in trunk expansion may be noted, while the thermograph is used to measure the internal temperature of the tree. With these instruments the start and cessation of growth may be noted. The most active period of growth occurs between April 10 and June 15, records show. The internal temperature is modified by the rate of transpiration. The minimum temperature in winter has been noted as being 8 to 10 degrees below the outer temperature, while the minimum temperature in summer may be 16 to 20 degrees below the air temperature. The fatal internal temperature was suggested as being 86 degrees. The highest internal temperature recorded was 80 degrees. A slight rain reduced the internal temperature 10 degrees. Changes in the humidity affect the internal temperature and the growth rate of the tree almost at once, especially during the summer months. Rains and high humidity raise the internal temperature. A subnormal tree shows the most increase.

To conclude the morning session,

August 28, a discussion of "Tree Physiology" was offered by C. G. Deuber, of Yale University. The talk was accompanied by lantern slides, many of which were of charts showing the distribution and growth of roots of trees. The total area exposed by the leaves of a tree has been variously estimated. One suggestion is that the area exposed amounts to three and one-half acres. An opinion was expressed elsewhere in the meeting that the Cambridge elm had 8,000,000 leaves and a total leaf surface of five acres. An interesting chart was presented showing the distribution of the energy used in growth. Ten per cent of the energy is used in respiration, while ninety per cent is used in storage and tissue-building operations. Of this ninety per cent, eighty-one per cent goes into the top and nine per cent into the roots of a tree. Reference was made to many workers who have contributed to the science of the physiology of trees.

Cavity Work.

The afternoon of August 28 was given over to a discussion of cavity work, which brought out some interesting points. F. A. Bartlett's paper on "The Historical Background of Cavity Work" was read. R. P. Marshall next discussed "The Scientific Aspects of Tree Cavities." He pointed out that cavity work probably constitutes not more than five per cent of the total volume of tree business. He inferred that the excavation of heartwood and oftentimes even that of a punky nature is a questionable practice. The shaping of the wound, which should conform to the normal sap flow, is a fundamental treatment to observe in any cavity. Bracing is important and often necessary both above and below the wound, to prevent frost cracking and injury. In bracing, use screw hooks rather than bolts and nuts wherever possible. Whether an open or closed cavity is left may well depend on the nature of the wound. Closed cavities may be limited to valuable trees subject to close scrutiny. If filling is practiced, one must take into account the swaying caused by wind. Good results depend more on the technique employed than the material used.

Herman Merkel, of the Westchester county parks, White Plains, N. Y., in discussing briefly "Practical Aspects of Tree Cavities," stressed the impor-

tance of an elastic material between the filling and the surface of the wound. He suggested following the open-cavity system. The only reason for filling is to make the wound more sightly. If clients require the cavity to be filled, it is best to leave it open for a time first.

"A Modern View of Twenty-five Years of Cavity Treatment" was the topic of a paper presented by Homer L. Jacobs, Kent, O. Mr. Jacobs inferred that there should be considerable variation in the extent of cavity filling. Trees in poor condition should not be filled. Cavity treatment should be limited to seasons of the year when healing is most rapid. Maple and apple should not be treated after September 15. Such trees as cherry, chestnut, Lombardy poplar, linden, black locust, white birch, mountain ash, deciduous magnolias, chinaberry and all dogwoods are never given cavity treatment. Maple trees suffering from the wilt disease or trees that have been struck by lightning should not be treated until they have fully recovered. The speaker felt that filling the cavities does help in retarding fungous development.

Criticizes Cavity Filling.

The next paper was presented by Norman Armstrong, White Plains, N. Y., on "The Importance and Place of Cavity Work in Arboriculture." He stated that the practices involved in cavity work may be subjected to considerable criticism. Further statements inferred that the inrolling callous growth of an open cavity strengthens the tree more than filling the wound. The only reason for filling cavities is to give a better appearance. Treating and dressing wounds are far more important than filling the cavity.

The discussion brought out two important facts. The first point was that a good wound dressing is one that must be permanent to do away with checking, must be a disinfectant and must not injure the cambium. The second fact concerned the nature of wood-rotting fungi. It was said approximately ten per cent of the wood-rotting fungi may gain entrance to the heartwood when no wound is present. These ten per cent are found mostly in normal forest stands and are difficult to control or prevent. The other ninety per cent of the fungi gain entrance to the heartwood through an exterior wound. The development of these fungi may be prevented if the wound is sealed and made water-tight.

Lawn Pointers.

For the evening meeting, a discussion of "Lawn Maintenance," by H. B. Sprague, of the New Jersey agricultural experiment station, was given. Figures and charts were presented to show that grass roots will occupy eight to nine inches of the surface soil if they are given a chance to develop. The root growth in blue grass ends in May, while that of bent continues until July. Close cutting greatly reduces root growth. A high acidity gives a poor turf from late July on. Tests have shown that it takes five to six times as long for water to enter an acid soil as one neutral or alkaline. The absorption of nitrogenous fertilizers in the form of ammonia is slow in an acid soil and may even become toxic. Chewings' fescue and Vel-

vet bent were suggested as satisfactory grasses for shady places.

Discussions of diseases and insects were scheduled for the morning session August 29. D. S. Welch, of Cornell University, discussed "Neetria Cankers of Trees." These cankers may be rather extensive and in some cases entirely girdle the stem. Cankers are bad on linden, apple, elm, mountain ash and boxwood. The boxwood canker was reported as being especially serious in Maryland. L. W. R. Jackson, of the Allegheny forest experiment station, Philadelphia, in discussing "A New Disease of Oriental Plane," made the statement that it had been found only on street trees.

Cedar-apple Rust.

Following were discussions of the "Control of Cedar-apple Rust," by Ivan H. Crowell, consulting plant pathologist, Boston, Mass.; "Biological Decomposition of Organic Matter," by M. M. McCool, of the Boyce Thompson Institute, Yonkers, N. Y., and "Nonpoisonous Substitutes for Arsenicals," by C. C. Hamilton, of the New Jersey agricultural experiment station.

R. B. Friend, of the Connecticut agricultural experiment station, New Haven, Conn., spoke on "The European Pine Shoot Moth." There is only one generation of this pest in the east. Red pine, *Pinus resinosa*, appears to be the most susceptible, while the white pine, *Pinus strobus*, appears to be the most immune. Trees that are ten to fifteen feet high and located in open areas appear most susceptible. For control measures, the infested shoots should be removed in May. Spraying with oil and nicotine, lead arsenate and summer oil or lead arsenate and fish oil should be effective. One and one-half pounds of lead arsenate, one pound of fish oil soap and fifty gallons of water are the formula recommended. Three applications—June 12, June 23 and July 3—were effective.

A demonstration of power spraying and airplane dusting of trees for insect and disease control was of interest in the afternoon.

The evening session was featured by a discussion of "Roadside Improvement," offered by L. H. Simonsen, landscape architect, bureau of roads, Washington, D. C. Much of the session was spent in the showing of slides and discussing the Mount Vernon Memorial parkway. Informal planting of native plants was stressed.

Dutch Elm Disease.

The discussion of the Dutch elm disease was left for the morning of August 30. L. H. Worthley's paper on "The Status of the Dutch Elm Disease Eradication Program" brought out the fact that 10,574 diseased trees have been found in the 50-mile area around New York city. It is believed that the rate of spread of the disease has been checked.

Curtis May, of the Dutch elm disease station in New Jersey, discussed the pathological research relative to the disease and brought out the fact that most of the time has been spent studying the spread and dissemination of the disease. Wounds must be present before trees can become infected. Most of the infection and spread of the disease take place during the growing season. Infection may be through old or new wounds. No infection has resulted by

innoculation of the leaves, but infection may take place through petioles. The disease may spread from one annual ring to another. The disease may also be spread from one tree to another by root grafting. Copper sulphate has proved the best material to treat the stumps of removed trees to prevent suckering.

The entomological standpoint of the disease was discussed in a paper by C. W. Collins. The two most important pests active in the spread of the disease are the European bark beetle and the native bark beetle. Three other pests, the elm bark weevil, elm borer and the buffalo tree hopper, may play a minor part in its spread.

Comments by E. G. Rex, from New Jersey; W. H. Rankin, from New York, and W. O. Filley, of Connecticut, in discussing "The Local Situation Relative to the Dutch Elm Disease," disclosed that considerable headway has been made and if sufficient funds are kept available further improvement should occur. In most cases the spread of the disease was much less during the past year than had been expected.

Tours made by the arborists during the conference included visits to the Morris Arboretum, the establishment of Andorra Nurseries, Inc.; the estate of Charles F. Jenkins, Germantown; Bartrams Gardens, and Valley Forge.

FUNGUS ON AILANTHUS.

The ailanthus, or tree of heaven, is widely established in this country and supposedly with few or no insect enemies or plant diseases. The shoestring, or honey, fungus has killed a number of trees on Long Island the past two seasons, however. Under the bark of many of these trees was an abundant lacework of coarse black strands ending in expansions of white fungus. In some cases this extended to a height of nearly five feet. This fungus causes root injury to a large variety of native trees, but apparently is much less injurious to these than to ailanthus.

The early affected trees showed dying or wilting branches and, in some cases, abundant adventitious shoots upon the trunks. The recently dead trees had the bark underlaid with a network of shoestring fungus and in those which were killed earlier there was no trace of fungus, the inner bark being largely reduced to coarse, brown, powdery remains by various secondary insects.

The ailanthus, although it has a pleasing, subtropical appearance and is handsome when in fruit, is a weed tree, since it tends to crowd out more valuable species, and the killing of it by a fungus can hardly be considered a serious loss. There are better trees than the ailanthus for shade purposes. There is no possibility of saving an ailanthus which has been invaded by the shoestring fungus. Such a tree should be destroyed in order to reduce the probability of the fungus' attacking other trees. A period of three years should elapse before other trees are planted, unless one is willing to take a chance in the hopes that native species are more resistant.

PLANTING of stock is now under way at the old Arthur Haner farm near Dooms, Va., recently bought by Shenandoah Valley Nurseries, Inc., Waynesboro, Va. An office was opened by the nurseries August 22 at the Fishburne building, Wayne avenue, Waynesboro.

Revive Texas Association

*Convention at Austin Attests Interest in State Organization,
Which Will Engage in Legislative and Other Local Activities*

The convention of Texas nurserymen held at Austin, September 4 and 5, proved to be the pride and joy of many old members of the trade within the state, carrying on the work started in the early history of the state by the forefathers of some of those at this meeting.

According to reports, the first nursery in Texas was established in 1852, and almost from that date there was an organization of nurserymen in existence. Many of the older members recalled the activities of the state association prior to the World war, when the Texas Nurserymen's Association met with the horticultural society at State College, where the old farmer's congress was held annually. Of course at that time, the principal nursery crops were shade trees, fruit trees, berries, grapes, etc.

As explained by veterans of the trade, when the war came on there was a general change. A. & M. College became a training point of the soldiers, and no meetings were held for the years during the war. Immediately after the war there was a period of prosperity, with a big demand for nursery stock, especially for ornamental trees and shrubbery. It seems most of the nurserymen were so busy and financially independent that interest was lost in or little need felt for the continuance of the state association and the old work of furthering horticultural developments cooperatively.

Change since War.

In 1918 the Texas Association of Nurserymen joined with the trade in four other states and formed the Southwestern Nurserymen's Association, its first president being W. C. Griffing, now of Beaumont, Tex. Since that time meetings have been held annually, with members from Louisiana, Oklahoma, Arkansas and New Mexico.

With the oncoming of the depression and in consequence of the fact that most nurserymen had turned their attention to the production of an abundance of ornamental trees and shrubs, many problems came up.

At the annual convention of the Southwestern Association of Nurserymen, at Mineral Wells, Tex., in June, a talk was given by W. C. Griffing stressing the need for a Texas association of nurserymen to deal with problems incident to the nurseries within the state, particularly legislation, rail rates and inspection. It resulted in the appointment of a committee to formulate plans of a new organization for Texas.

Good Representation at Austin.

The nursery trade of Texas was well represented at the Austin meeting, members being present from all sections of the state, and representatives of the various branches of the industry—wholesale growers, retail nurserymen, landscape architects, fruit growers and dealers.

The program included a varied assortment of addresses, one of which was particularly interesting, "Pioneers of the Texas Nursery Industry and Reminiscences of Early Meetings," given by Edward W. Knox, Sr., himself a pioneer. It was interesting to recall the growth

of the nursery industry from 1852, the beginning of nurseries in the state, to the present, when so many are engaged in work of such a varied nature, in contrast with the crude beginning.

A paper on "Taxation of Nursery Crops" was read by W. C. Griffing. The nursery crops of the state have been taxed as merchandise for many years by the state, county, school and city tax officials. Many nurserymen have been severely penalized by the injustice of this tax. It was brought out by Mr. Griffing that relief was much needed, and in order that a bill may be presented at the summer special session of the legislature, he offered a petition for signatures of the nurserymen to be presented to the governor. Almost all the nurserymen present signed the petition, and it was hoped the proper legislative action could be obtained.

Trucking Regulations.

Trucking of nursery stock over the state has become a common practice, and there recently appeared a ruling by the attorney-general, of which the nurserymen were eager to learn. Judge Victor B. Gilbert, of the motor transportation division of the Texas railroad commission, was present to explain. The nurserymen were particularly interested to learn about individual firms' transporting nursery stock on their own trucks and complying with the regulations in effect. Where this trucking is in competition with the railroads and established truck lines, it was reported these trucks would have to comply with truck laws for public hire. When deliveries are made of the grower's own products, without any charge for deliveries, it was the general opinion no contract carrier's license is required. The ruling, as explained by Judge Gilbert, is to regulate and control the collection of fees from all publicly operating trucks for the upkeep of the highways and to protect the public carriers' trade.

State Department Heads Speak.

On the second day of the meeting, the representatives of the various departments of state spoke to the convention. Hon. J. E. McDonald, commissioner of the department of agriculture, gave a brief talk, welcoming the nurserymen to Austin and offering his services and those of his department to the industry. J. M. Del Curto, chief of the division of plant quarantines, outlined how the nurserymen had cooperated with his department in maintaining inspections, and he offered a few suggestions for changes in the rules in order that better service could be rendered.

"The Benefits to Be Derived from the Federal Housing Act" were discussed by John A. Gracy, vice-president of the Capital National bank, of Austin. Mr. Gracy told how home owners can obtain loans for landscaping and urged the nurserymen to take advantage of the opportunity to sell their products.

The development of landscaped highways in Texas is a subject vitally interesting not only to nurserymen and horticulturists, but the whole citizenship

of Texas. Prior to the Texas centennial, in 1936, it is hoped that thousands of trees, shrubs and flowers will be planted along the roadways. J. L. Gubbels, landscape architect of the state highway department, outlined to the convention something of the work done and told of the contest conducted by the state highway department to encourage beautification of homes, filling stations and public grounds, prizes of thousands of dollars being offered. The association asked Mr. Gubbels to talk on the subject, "How the Highway Department Will Cooperate with Nurserymen in Contract Plantings," hoping he would outline a plan of utilizing the better grown nursery products of the state nurserymen; however, he reversed the topic and told how the nurserymen could cooperate with him in his work. It was interesting to note that he is expecting to use more nursery-grown products and of first-class quality in order to reduce losses in transplanting to the minimum.

A. A. N. Convention Coming.

Edward L. Baker made an interesting report of his trip to the American Association of Nurserymen convention, at Cincinnati in July. Mr. Baker told of his work with the revitalization committee of the A. A. N., and he recommended that the Texas association immediately become a member of the A. A. N. A resolution was passed authorizing the executive committee to appoint representatives to work with other organizations, including the A. A. N.

A special expression of gratitude was offered by Mr. Baker for the hearty cooperation given him in his effort to secure the American association convention for Dallas, in 1936. He made special mention of Mr. Griffing's securing the capable speaker, R. C. Morrison, city forester of Fort Worth, to attend the convention, take part on the program and boost for Texas in 1936.

As the American Association of Nurserymen had voted to come to Texas in 1936, Mr. Baker solicited the full cooperation of the nurserymen of the state in the entertainment of the members.

Supplementing Mr. Baker's report, brief remarks were made by W. C. Griffing, C. C. Mayhew and R. P. Verhalen, who likewise attended the Cincinnati convention and took active part in the convention work.

The nurserymen were served a delicious luncheon at the Driskill hotel, the headquarters of the convention, on the first day of the meeting. The same evening, a chicken barbecue was served in the park at Barton Springs, where a swimming pool was opened to those who cared to swim in "the coldest water in Texas." Sixty-five persons were served at the barbecue.

Election of Officers.

The officers elected for the ensuing year were: President, J. M. Ramsey; vice-president, R. P. Verhalen, and secretary-treasurer, Lee Mosty. Six addi-

tional persons to be on the executive committee and to aid in enlisting members from the various sections of the state were elected, as follows: C. C. Mayhew, Sherman; E. L. Baker, Fort Worth; O. S. Gray, Arlington; J. E. Fitzgerald, Stephenville; Edward Teas, Houston, and Edward W. Knox, San Antonio.

Austin was chosen as the regular meeting place of the convention each year, the first Wednesday and Thursday of September being the time selected.

TEXAS CENTENNIAL PLANS.

Points of Trade Interest Told.

The florist and the nurseryman will find in the beautifully landscaped grounds of the Texas Centennial exposition in Dallas a display of the latest in their art. Amid a wealth of flowers and trees, the exposition, the first world's fair ever to be held in the southwest, will be presented as the climax of Texas' celebration in 1936 of its one-hundredth anniversary of independence. Preparations for the exposition, which will open June 6, are being made on a large scale. An investment of more than \$15,000,000 will be represented in buildings and grounds.

Forests of towering pines in east Texas, fields of semitropical flowers in south Texas, cactus and yucca-dotted ranges of the western reaches of the Lone Star state, all will supply native Texas trees, shrubs and flowers for the 200-acre grounds of the exposition under a \$200,000 landscaping project announced by exposition officials.

Landscaper in Charge.

Although the trees and flowers native to Texas will be featured as far as possible in the landscaping scheme, nursery stock of many other kinds will be employed also. D. D. Obert, landscape engineer of the firm of Hare & Hare, Kansas City, Mo., is in charge of the project.

At the same time, the Texas state highway department is beautifying the principal highways of the state with a series of parks and camping sites along the way, work being pushed in order that this program may be completed in time for the rush of tourists.

In further enhancement of the natural scenic beauty of the state, the Texas Agricultural and Mechanical College, in cooperation with public-spirited donors of prize funds, is sponsoring a farm home beautification project, the aim of which is to render assistance in the work of dressing up Texas for the centennial celebration.

The enlarged Texas state fairgrounds at Dallas, which will be the site of the exposition, are at present dotted with numerous trees and shrubs, but by reason of new construction on the grounds as well as the need for harmony in the new landscaping scheme most of this vegetation will be removed, to be replaced with new plantings.

Planting Details.

Landscape plans include chiefly hardy native shrubs and plants. Most of the trees will be Texas live oak, Chinese elm and American elm. The Chinese elm will be used particularly in the formal area at the center of the grounds. Flowering shrubs of the broadleaf evergreen type will be used in other parts of the parking scheme.

Planting is scheduled to begin in December and will continue until the actual opening of the exposition the following June. Because of the time of the year during which the exposition will be open, it will not be possible to make use of the bluebonnet, the state's flower; however almost all other blooms of vivid color will be used.

Around the reflecting pool on the main esplanade, 30-foot beds of flowers will be planted, each bed a different color, to achieve a rainbow effect. In general, the landscaping will follow the same trend as the permanent buildings, a trend that is known as classic modern. A softening note in the landscape treatment everywhere will tie in with the architectural elements of the exposition.

Trade Cooperation.

As a feature of the exposition, an area will be set aside for nurserymen and organizations to assemble a composite garden of Texas flowers, including huge rose beds. Featured will be the Centennial rose, which was developed last year at Tyler. Tyler is the center of the east Texas rose-producing area.

Another area will be devoted to typical scenes from various parts of the state, with cacti and sagebrush from west Texas, pines from east Texas and palms and semitropical plants from south Texas.

All the trees planted on the grounds will be nursery-grown; they will be defined as to whether or not they are native Texas trees. On the other hand, the trees now on the grounds will be removed in order to make way for contour grading of the grounds, and since the trees cannot be transplanted at that time of the year, they will be lost.

It is interesting to note that several groups interested in flower culture will hold their national conventions in Dallas during the centennial year and will have opportunity to observe at first hand the landscaping project at the exposition grounds. These organizations are the American Association of Nurserymen, National Council of State Garden Clubs and the Florists' Telegraph Delivery Association.

Farm Beautification Project.

In addition to their interest in the landscaping work on the exposition grounds, producers of nursery stock are keenly interested in the progress of the farm home beautification program sponsored by the Texas A. & M. College. The opportunity for the sale of trees, shrubs and plants as a part of the farm home contest attracts their attention. It is argued in behalf of the farm home beautification program that patriotic citizens, in addition to helping themselves, will promote the welfare of the state by putting on the best possible front during the centennial year. Prizes totaling \$2,500 have been subscribed toward the farm home beautification contest, and additional donations are coming in. County agents working in cooperation with the state agricultural college will lend their assistance to the owners of farm homes in the beautification program. Leading nurserymen of the country are giving their cooperation.

Further to promote the beautification of Texas highways for the benefit of centennial visitors, leaders in the movement are calling on gasoline filling station owners to landscape their grounds. In the case of the large oil companies, this

AMERICAN NURSERYMAN

has already been done in the past. Likewise, other business places are being urged to get dressed up.

The exposition will open at Dallas June 6 and continue to November 29, 1936, with other celebrations to be conducted at the battlefield of San Jacinto, near Houston; at the Alamo, in San Antonio, and at various other historical points. To insure the success of the big show an expenditure of approximately \$20,000,000 is to be made, most of which will be on the main exposition in Dallas.

PESTS THREATEN TEXAS STOCK.

Leaf worms and bollworms are increasing rapidly in many sections of Texas. While there are grain, sorghum and corn in abundance, these pests will not be dangerous to the shrubs, trees or flowers, but in parts of the state where there is a scarcity of the former crops, the nurserymen have cause for alarm. It is of utmost importance that the pests' depredations be stopped with all the means at hand. The shortage of calcium arsenate easily can create a serious situation in many sections where the insects are increasing faster than at any time since 1923.

While large stocks of poison were concentrated earlier in the season in southern and central Texas, they have been consumed by the big growers and planters in the Brazos and Trinity bottoms, where airplanes and every type of dusting machine, from the one-man hand dust gun to the tractor-powered large dusting machine, have been put to use. In many sections these machines have not been used in seven or eight years. Leaf worms are reported from all parts of Texas at this time.

Due to the large amount of calcium arsenate used in southern and central Texas, stocks of this poison in north and central Texas are extremely low, and the high prices in some localities are the cause of complaints by farmers and growers. The noncitrus fruit crop having been mostly made, there is little alarm for this year's crop, only to October peaches and grapes. Southern Texas, or the valley which produces some of the finest citrus fruit in the United States, unless the pests are eradicated, will be devastated, as the bollworm moths of the second brood are now laying eggs in that section, and the pests may be expected to spread rapidly with favorable weather, especially if it is showery. However, the bollworm's favorite food is cotton, and as long as the pest has that to feed on, other crops are not likely to be attacked.

Central Texas is hard hit. Among the counties reporting severe leaf worm damage is Bell, where the Belton-Temple fields have been stripped of all fruit. The infestation is said to be the most serious in the country's history.

OFFICE BUILT OF FOSSILS.

Ross R. Wolfe, operating pecan nurseries at Stephenville, Tex., is a collector of fossils, his interest in them dating from his discovery about fifteen years ago of what he believed was a petrified sheep, but which was only a rock of a peculiar shape. At his nurseries Mr. Wolfe has an office constructed of petrified wood and fossils and he calls the building "The House that Time Built."

Southern Association Convention

Nurserymen of Nine Southern States Meet at Atlanta to Hear Interesting Discussions of Current Trade Developments

Nurserymen from nine southern states registered at the Atlanta-Biltmore hotel, Atlanta, Ga., August 29 and 30 when the Southern Nurserymen's Association held its thirty-seventh annual convention. The convention was preceded by a meeting of Georgia nurserymen Wednesday evening, August 28.

W. L. Monroe, of the Monroe Landscape & Nursery Co., Atlanta, president of the association, called the meeting to order. E. A. Wachendorff introduced Dr. H. W. Cox, president of Emory University, Atlanta, who offered the invocation.

H. Cobb Caldwell, Atlanta, introduced Joel Chandler Harris, Jr., who, in the absence of Mayor Key, made the address of welcome. The response was made by C. T. Smith, Concord, Ga., who was the only member present who had attended the first convention in Chattanooga, Tenn., in 1899. He has missed only about two conventions in thirty-seven years.

A telegram from E. E. Chatten, Winchester, Tenn., stated that he would be unable to attend, so M. L. Harkey, chairman of the executive committee, was asked to serve in his place. H. Cobb Caldwell gave a report from the committee on arrangements, which was followed by the address by the president, W. L. Monroe.

At the conclusion of the president's address the following committees were appointed: Time and place, C. R. Stephens, chairman, and S. R. Howell; educational, E. A. Wachendorff, chairman, and M. L. Harkey; resolutions, John Fraser, Jr., chairman, and Harry Nicholson, Decherd, Tenn., and auditing, M. E. Thornburg, chairman.

H. K. Roberts, of the regional office on national parks activities, told of the fine work being accomplished by the C. C. C. camps. He stated that the forestry service aids in the development of state parks. He further declared that the aim of the government was to disturb as little as possible the natural beauty of these parks and that there will probably be from six to fifteen of these parks in each state. Each camp has an engineer, an architect and a landscape architect. The

speaker acknowledged that the purchase of material was limited, but that the plan was making more potential customers for plants than any other program.

E. A. Wachendorff was thanked at this time for the stage decorations. In acknowledging the commendations, Mr. Wachendorff announced the dates of the southeastern florists' convention, September 14 and 16, in Knoxville, Tenn., and extended an invitation to those present to attend this convention.

"Sales Suggestions."

Harry L. Nettles, Biltmore, N. C., in talking on "Sales Suggestions," suggested that the nurserymen first make their home grounds beautiful. He brought out the point that it does not cost any more to grow a good plant—one that will live when transplanted—than one that is not good. A poor plant calls the salesman to the customer's mind as often as the customer looks at the wilted specimen. He closed by saying that the nursery business was an educational proposition.

Mr. Wallace, of the Monroe Landscape & Nursery Co., introduced Kendall Weisiger, an official of the Bell Telephone Co., who, although not a nurseryman, was prepared to give some good points on a definite program of planting for a public institution. It recently fell to him to see to the planting of the grounds of a college for colored persons and he began to concern himself in regard to trees and shrubs. He discovered that the first trees in Atlanta were planted during the cotton states exposition, in 1895.

In quoting from the American Forester, he said that there were 152 varieties of trees in the Great Smoky mountains of America in contrast to eighty-five in central Europe. The new leisure gave people time to devote to culture and it was a question whether the nurseryman's job would become a business or a profession, since any business can become a profession by the rendering of a high grade of service.

Competition should be helpful and not destructive. He urged that nurserymen

watch their planting and look ahead five or even fifty years. He also urged them to study the types of trees and shrubs best suited to their own communities, which will tend to make famous gardens, like the magnolia gardens in Charleston, S. C. He told that Atlanta is attempting this same type of publicity with dogwood trees. He stated that nurserymen can set the fashion in plants and trees just as a tailor sets the fashion in clothes. Due to an invention, he said that the time is not far off when all telephone poles and lines will be taken from the side of the highways, and then it will behoove the nurserymen to see that plantings of beautiful trees replace the poles.

Roy Chastain stressed the unsightly approaches to cities and towns and hoped that something will soon be done about it. He heartily indorsed the program for soil erosion and showed how useless commercial fertilizers are without constructive care of the soil first.

National Forest Program.

W. W. Bowers, landscape technician from Washington, D. C., stated that the forest service plan for the development of recreational opportunities in southern national forests will attract additional tourist dollars to the south each year. National forests in the south now aggregate more than 6,000,000 acres of land, ranging in type from the scenic mountain country of Georgia, North Carolina and Tennessee to beach types in Florida. This great southern domain affords unrivaled opportunities for recreational enjoyment by the citizens of the country without interfering with the primary functions of protecting watersheds and conserving timber.

The plan is to develop these opportunities by providing attractive roads, picnic areas, camp sites, recreational lakes and well stocked fishing streams, and setting aside areas suited to the building of summer homes by private individuals under the special-use permits of the government.

The foregoing talk was followed by in-



Nine States Represented among This Group at the Southern Nurserymen's Association Meeting at Atlanta.

structive picture slides, after the showing of which the meeting was adjourned for luncheon, which took the place of the banquet scheduled for the evening, but shifted because of the night baseball game.

Details Soil Building.

J. Lee Smith, district agent and agronomist of the Florida agricultural extension service, Gainesville, Fla., made the opening address at the second session of the convention. His subject was "Maintaining and Building Nursery Soils in the South." It was a most enlightening talk. He showed the advantages of growing crotonia and stated that it does best in Norfolk deep sand, naming this as the lowest agriculture grade of farm land. He said crotonia is the only summer crop that maintains the nitrogen in the soil. He urged everyone present to wake up and help fight the evil that has long been confronting the southland, that of poor soil.

After this address a paper was read from M. S. Yeomans, Georgia state entomologist, on "How the Southern Nurseryman May Give and Receive Cooperation from His Entomologist in Eliminating Unfair Competition." Mr. Yeomans advocated a closer cooperation between the nurserymen and quarantine inspectors. He announced that a meeting will be held in the early fall in Chicago of all United States quarantine inspectors.

Few Trade Bootleggers.

As to the number of peddlers, or so-called bootleggers of the trade, these only consist of fifteen per cent of the trade, Mr. Yeomans said. The remaining eighty-five per cent have good nurseries. All nurserymen should inquire of a peddler who wishes to purchase stock as to his qualifications and if necessary turn him down and immediately notify the inspector. The Georgia law is that all nurserymen selling stock must pay a license, and when stock moves out of a nursery it must bear the stamp of the state inspector.

At this time an announcement was made regarding a cure which has been found for blight on apple and pear trees. Samples of this preparation can be had from Alvin Yates, Lenoir, N. C. It is called Chill Blight. There was another announcement about a spray that could be used on hawthorns, pears and apples when they are in bloom, and it was said to be extremely effective.

G. M. Bentley heartily indorsed Mr. Yeomans' paper and urged the members to "Watch tags just as you watch the money in your wallet."

Mr. Cagle in a short talk brought out that the landscape architect rather than the building architect should be allowed to place the house.

Owen G. Wood, Bristol, Va., spoke on "Revitalization."

E. A. Wachendorff introduced Dr. T. H. McHatton, of the University of Georgia, Athens, who gave an exceptionally interesting illustrated lecture on American landscape architecture. Dr. McHatton told the nurserymen that they are building a new industry and have the largest influence of any group on horticultural interest. He urged them to seek to develop the plants belonging typically to their own community. He stated that little has been written on American gardening architecture and

that to his mind landscape gardening is the finest of all the fine arts.

Dr. McHatton told of the discovery of gardens belonging to the Aztecs in 1519 and of gardens in Peru in 1530. He showed slides of an American Indian garden at the time America was discovered, the colonial gardens which were planned and planted by the first colonists, the antebellum gardens which were planted in the south preceding the war between the states and so on to modern gardens.

To Meet at Miami Next Year.

President Monroe was cordially thanked for the fine program, which was built around the awakening of education in landscape architecture. One central school of landscape architecture was urged for the south rather than small units scattered over the various southern states.

Mr. Smith reported that there had been little change in a legislative way in the trade.

Miami, Fla., was chosen as the next convention city and the following new officers were elected: President, E. E. Chattin, Winchester, Tenn.; vice-president, Richard H. Jones, Nashville, Tenn.; secretary and treasurer, W. C. Daniels, Charlotte, N. C., and chairman of the executive committee, Charles Ward Smith, Concord, Ga.

BULLETINS RECEIVED.

"The Gladiolus," bulletin No. 231 of the extension department of Cornell University, Ithaca, N. Y., prepared by Alfred M. S. Pridham. This is an illustrated pamphlet of thirty-two pages. In

separate sections are treated the botany of the gladiolus, the development of the modern gladiolus, the culture of the gladiolus, gladiolus breeding and gladiolus diseases and insect pests. The discussion of diseases was written by Dr. L. M. Massey, and that on insect pests by Dr. G. F. MacLoud. A list of popular varieties occupies two pages and indicates the type, originator, color of florets, markings and flowering season for each.

"Peony Growing," bulletin No. 321 of the extension department of Cornell University, Ithaca, N. Y. The authors are A. M. S. Pridham, C. E. F. Guterman and Grace H. Griswold. Consisting of forty-eight pages, this booklet contains notes on the early history of the peony and on the various types available. The cultural comments given are chiefly in relation to Peony albiflora types, which include the Chinese, Japanese, anemone, semidouble and double groups commonly grown. There is a special discussion of the culture of peonies for cut flowers. Peony diseases, insect pests and peony breeding are other important topics.

"History, Culture and Varieties of Summer-flowering Phloxes," bulletin No. 588 of the extension department of Cornell University, Ithaca, N. Y., prepared by A. M. S. Pridham. While assembling many valuable data on the botany, history and culture of the phlox, this booklet of thirty-six pages is especially noteworthy for the collection of photographic reproductions of modern varieties which it contains. To the general notes are added a section on diseases of the phlox, by C. E. F. Guterman, and comments on the red spider mite, by William Blauvelt.

Plant Patent in Court

First Suit under Plant Patent Act Filed in Ohio Court over New Type of Barberry

The first case involving a plant patent is now pending in the United States District court for the northern district of Ohio, eastern division, arousing great interest not only in the trade, but among patent attorneys. The bill of complaint has been filed by the Cole Nursery Co., Painesville, O., against the Youdath Perennial Gardens, Inc., Mentor, O., and John A. Youdath and Mrs. Youdath.

Infringement is charged of plant patent No. 110, covering a variety of barberry named Truehedge Columberry by its introducers and given the botanical name of *Berberis Thunbergii* pluriflora erecta. This is a barberry of upright and pyramidal shape discovered and patented by Michael H. Horvath, who assigned his patent rights to the Cole Nursery Co. The shrub proved exceedingly popular, and great quantities have been sold.

The bill of complaint alleges that the defendants reproduced and sold plants of this barberry in violation of the plant patent. An injunction is asked, restraining the defendants from reproducing or vending plants embodying the discovery, and an accounting of damages is likewise asked.

An answer has been filed by the defendants. Patent attorneys state that this is drawn in the form usual in the

defence of ordinary patent suits, containing denial of the validity of the patent because of prior publication and public use and because of the limited description of the patented plant. The place of prior publication is not stated in the answer, nor the place of prior public use, but leave is asked to insert by amendment.

As the first suit to be brought under a plant patent, this case will have widespread attention, not only among nurserymen, but among florists, fruit growers and, indeed, all branches of commercial horticulture. It has long been recognized that the originator of a new variety of plant should be entitled to a reward for his labors, just as much as the inventor of a mechanical device. Many years and much expenditure of effort and money were required to obtain the amendment to the patent law which finally made this possible.

Many difficulties occur in the enforcement of plant patents which are not involved in those covering mechanical devices. So no legal action has hitherto been taken, though it has been recognized that some infringements occurred here and there. Just as other legislation depends upon the courts for interpretation and enforcement, the plant patent act now enters upon an important stage, the outcome of which will have widespread attention.

CALIFORNIA CONVENTION.

The program for the silver jubilee convention of the California Association of Nurserymen, to be held at San Diego, Cal., September 26 to 28, has been practically completed. Business sessions will be held at the chamber of commerce assembly hall. The schedule of events, barring last-minute changes, will be as follows, according to the committee in charge, headed by George F. Otto, San Diego:

SEPTEMBER 26, 9 A. M.
Call to order, by President R. D. Hartman, San Jose.
Welcome, by George F. Otto, San Diego.
Response, by George C. Roeding, Niles.
President's address, by H. D. Hartman.
Treasurer's report, by Jess C. Watt, Ontario.
Secretary's report, by Henry W. Kruckeberg, Los Angeles.
Reports of standing committees.

SEPTEMBER 26, 1:30 P. M.
Appointment of convention committees.
Annual report of the state nursery inspection service, by J. D. Meriweather, chief, state department of agriculture, Sacramento.

SEPTEMBER 27, 9 A. M.
"A Sherlock Holmes Fingerprints the Criminal Bugs in the Greenhouse and Nursery," by H. H. Kelfer, assistant systematic entomologist, state department of agriculture, Sacramento.
"The Battle of the Bugs, a Phase of Economic Entomology," by Harold Compere, entomologist, citrus experiment station, Riverside.
"The Use of Succulent Plants in Landscape Work," by Lewis A. Walmsley, of the Soledad Rock & Water Gardens, Pacific Beach.
"The Commercial Plant Industry as a Vocation for Women," by Kate O. Sessions, San Diego.

SEPTEMBER 27, 1:30 P. M.
"Plants Useful in Checking Soil Erosion," by R. R. McLean, agricultural commissioner, San Diego county fair, San Diego.
"The Industry and the Department of Agriculture," by A. A. Brock, director, Sacramento.
Reports of convention committees.
Election of officers.
Other business.

SEPTEMBER 27, 7:30 P. M.
Banquet, with entertainment provided by the Ladies' Auxiliary, of which Mrs. Milton B. Sessions is president; Mrs. H. A. Marks, vice-president, and Mrs. R. L. Forsythe, secretary-treasurer.

SEPTEMBER 28.
Plantmen's day at the California-Pacific International Exposition.

No formal program for the day at the fairgrounds has been announced. The members will have a good opportunity, however, to inspect the many horticultural features of the exposition. Chief among these will be a special display, scheduled for the period of the convention, featuring new and rare shrubs, trees and fruits. Plantmen are invited to enter suitable material in this exhibition without charge.

MARTIN INSPECTION DAY.

Near-by growers were invited to an inspection tour of the Joseph F. Martin Co. nurseries, at Painesville, O., August 21. Over 200 were present, though a severe rainstorm probably prevented many from attending. Refreshments were served in the afternoon in the large packing room.

The nursery contains 200 acres, part of which is muck soil over about a foot of peat moss. Blocks of peonies totaled 50,000 plants. About 100,000 roses are to be budded next year. A large block of azaleas, one of mountain laurel and several thousand phloxes were among the many varieties of hardy plants. The seed trial grounds contained many zinnias, asters, petunias and others.

This is the first year of the Joseph Martin Co. in the seed business, and the results have been away beyond expectations. Credit for this is largely due to P. C. Pratt, manager of the seed department. Many of the seed customers are those who have been buying perennials and other stock from the Joseph C. Martin Co. in the past.

Specimen Evergreens and Shade Trees From Our Own Nurseries

	Per 100
5000 Hemlock, 3-4 ft. sheared, B&B.....	\$100.00
3000 Juniperus Stricta, 15-18 in., sheared and compact	50.00
2500 Douglas Fir, 4-5 ft., perfect trees.....	90.00
5000 Thuja Pyramidalis, 4-5 ft., transplanted the past year	110.00
5000 Thuja Pyramidalis, 5-6 ft., transplanted the past year	135.00
2000 Thuja Compacta, 2 ft.	65.00
2000 Thuja Wareana, 2-3 ft., bushy and well shaped	50.00
1000 Thuja Boothii, 2 ft., the best of the globes.....	65.00
2000 Mugho Pines, 2-2½ ft., transpl. spring of 1934....	90.00
2500 Norway Maples, straight trunks; good heads; fine, fibrous roots; 10-12 ft.; 1½-1¾ in. caliper	125.00
5000 Cornus Florida, good heads, straight stems	
6-8 ft.	100.00
8-10 ft.	150.00
10-12 ft.	200.00

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ROSES PATENTED.

Rummler, Rummler & Woodworth, Chicago patent lawyers, have announced that the following plant patents on roses were issued August 20:

No. 134. Rose. Thomas James Wolfe, Waco, Tex. A new and distinct variety of hybrid tea rose plant, characterized by the shape and fringed character of its foliage, by its lack of thorns and by the large, double, unfading and novel-colored flower on long, strong stems.

No. 135. Rose. Thomas James Wolfe, Waco, Tex. A new and distinct variety of rose plant, characterized by its long stem, its heavy and prolific growth, its endurance and ability as a cut flower to stand punishment and abuse in shipment and the novel color of its flower and foliage.

No. 136. Rose. Jean H. Nicolas, Newark, N. Y., assignor to Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of hybrid tea rose plant for bedding purposes, characterized by its extremely floriferous habit, in combination with its bloom color, which changes in development from scarlet orange to coral and then coral suffused with salmon.

No. 137. Rose. Jean H. Nicolas, Newark, N. Y., assignor to Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of rose plant, characterized by its growing habit, which makes it adaptable both for florists' and garden usage, and by the unique color of its bloom.

A. SAMUELSON, Troy, Ida., has bought a 10-acre orchard at Pullman, Wash., from H. E. Ricksecker. Mr. Samuelson intends to develop a nursery at Pullman.

JOHN WILCOX & Co., Newport, Cal., recently received one of the largest landscaping contracts in the locality in years—an order to landscape a new home at Santa Ana.

THE Vienna Nursery Co., Vienna, Ill., plans, as usual, to participate in the flower show to be held at Herrin, Ill., October 3 and 4. The nursery will exhibit evergreens chiefly.

Nursery Practices

Current Nursery Work Discussed by L. C. Chadwick

SEED COLLECTION.

It is advisable and economical for the nurseryman to collect his own seeds of woody plants whenever possible. It is advisable, because one may be sure of fresh seeds and be able to handle them to the best advantage. A forthcoming article will be devoted to handling seeds, but in the meantime collect and clean early ripening seeds of such plants as viburnums and coto-neasters. L. C. C.

CRAB GRASS.

Crab grass has become one of the worst lawn weeds with which gardeners have to contend. Fall seeding is one of the best ways of overcoming this pest. Since crab grass is an annual and makes little growth before early summer, a good turf of desirable lawn grasses growing luxuriantly at that time will do much to crowd out and smother the crab grass. If the crab grass is not extensive enough to warrant the preparation of an entirely new seed bed, remove as much of the crab grass as possible by raking or hand pulling. If raking does not remove the crab grass, it will at least raise the heads so that they may be reached by the lawn mower, thus preventing the ripening of the seeds. When a new seed bed is made, prepare the soil to a depth of from six to eight inches, as the grass roots will go that deep if given a chance. Fall seeding with a good lawn mixture will insure quick germination and a good growth of the grass during the fall while the development of weeds is at a minimum. Feeding and sufficient moisture in the spring will develop a strong, sturdy growth, with which the crab grass will have difficulty to compete. During the summer raise the cutter of the mower so that the grass is cut at least an inch and one-half high, which will not only help to develop a sturdy root system of the lawn grasses, but also will tend to shade out the crab grass. L. C. C.

GREEN MANURE CROPS.

With the exception of late seedings, soy beans used as a green manure crop will have been plowed under by this time. It should be remembered that the best time to plow under this crop is when the beans in the pods are about half grown. Investigators have reported that at that time approximately ten to twelve per cent of the total plant is in the roots and approximately 2.65 per cent nitrogen is contained in the tops and roots. Where a good crop is grown and plowed under, the nitrogen added to the soil is often equivalent to that added by an application of ten to fifteen tons of average farm manure.

As a supplement to soy beans or other leguminous crops, rye or rye and vetch may be used as a winter cover and green manure crop. Nurserymen in Ohio and similar climatic localities should sow this crop at once. Early September is usually preferable to late September. In localities where vetch is satisfactory it will be well to sow

the mixture, since the nitrogen obtained from the crop will be increased. Under most conditions rye alone adds little nitrogen to the soil. That produced by the plant is mostly used in its decomposition. Rate of seedage of rye alone is one and one-half to two bushels per acre. When vetch is included, use a mixture of sixty pounds of rye and twenty pounds of vetch at the rate of about five pecks per acre. The time of plowing rye under is very important if the greatest percentage of nitrogen is to be conserved. The crop should be plowed under when it is about nine to ten inches high, or about mid-April for central Ohio. If the rye-vetch mixture is used, a delay of three to four weeks in the plowing date is advisable. L. C. C.

TREE FERTILIZATION.

The best period for the fertilization of shade trees has long been debated, and scientific research has not as yet given us a conclusive answer. Among the influencing factors are the amount and distribution of rainfall, which are exceedingly difficult to forecast. Investigations at Ohio State University have shown that during summers of adequate rainfall, spring applications are usually more advantageous than fall, whereas during dry summers fall applications are preferred to those of spring.

In many cases fall applications have been attended with the fear that excessive late growth would be stimulated and severe winter injury might result. For central Ohio and similar localities it appears safe to make applications after about the middle of September. A high nitrogen fertilizer, such as a 10-6-4, with one-third or one-half of the nitrogen of an organic form, will make a good form to apply. If the fertilizer is put in holes beneath the tree, make the holes fifteen to eighteen inches deep and distribute them at least throughout the area covered by the spread of the branches. Recent investigations with fruit trees and a few ornamentals have shown that the feeding roots are well distributed throughout this area, with a larger proportion near the trunk of the tree than is generally supposed. L. C. C.

ROOT-PRUNING.

The greater part of root-pruning of plants in the nursery is done in the fall, but not infrequently it is completed during the spring. There are several reasons why fall is the better season for this operation. Besides resulting in a more fibrous-rooted plant, which is more likely to live when planted on the average home grounds, root-pruning also increases the absorbing power of the root system, tends to increase the hardness of the plant and, furthermore, causes some dwarfing. Since root-pruning increases the number of growing points, it incidentally increases the number of root hairs through which most of the water absorption takes place. Such a fibrous

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and compact root system greatly facilitates the digging and balling operations.

Root-pruning, regardless of the time it is done, slows the normal development of the plant and thus causes a certain amount of dwarfing. However, if the root-pruning is not too severe, a reduction of not more than fifteen to twenty per cent of the root system, and not practiced too often, there are no harmful reactions. The slight dwarfing of the top is usually beneficial, since it produces a more compact and symmetrical plant.

The fact that root-pruning cuts off the greater part of the water-absorbing surface of the root system, thus greatly reducing the quantity of moisture absorbed, forms the basis for performing the operation in the fall. At that time of year, when the activities of the plant are normally reduced, there is less water required than in the spring, when it is in a state of active development. Plant physiologists have reported that, of about 90 per cent of the energy used in tissue building and storage in the plant, about 81 per cent goes into the top and 9 per cent into the roots. In the fall, at the approach of cessation of growth of the top, the percentage of energy expended in the roots is undoubtedly somewhat greater. Investigations have also shown that plants normally make considerable root growth in the fall. Consequently, if root-pruning is done after fall rains have sufficiently moistened the soil and ample energy is available for the development of new roots, the plant will readily become reestablished and in a state of normal development by spring, at the time the majority of growth takes place. Root-pruning practiced when the soil is very dry may be detrimental, because, with the reduced root system, sufficient moisture may not be absorbed to carry on necessary functions of the plant. Likewise, root-pruning in the spring necessarily retards the normal spring development, and the injured root system is insufficient to support the expanding leaves. When root-pruning was done in the spring cases have been observed where the plants did not recover and make new growth until the following year. This was due to a cold spring followed by a dry summer. In such cases the few new roots that were produced were hardly sufficient to support the foliage of the plant, let alone the development of new growth.

To be effective in increasing the hardness of the plant, root-pruning, of course, must be done in the fall. Hardiness of the tops is caused by a change in the chemical composition of the stem in that carbohydrates are increased, while hardness of the roots is caused by increasing the oxygen supply to them.

More attention may well be paid to the practice of root-pruning in the nursery. While it has been customary for many nurserymen to root-prune evergreens, it could be much more extensively practiced with deciduous plants.

L. C. C.

CATALOGUES RECEIVED.

Storrs & Harrison Co., Painesville, O.—Autumn retail catalogue, of thirty-two pages, well illustrated, listing a general selection of materials for fall planting.

Edgar L. Kline, Oswego, Ore.—A pamphlet describing the bulbs and seeds of hardy garden lilies offered by this grower and importer.

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A. M. Grootendorst, Benton Harbor, Mich.—Wholesale price list for fall of bulbous items, mainly tulips, hardy lilies and gladioli, along with peonies, dahlias and a few perennials, among which hardy chrysanthemums and phlox are the leaders.

L. D. Baker Peony Gardens, Kendallville, Ind.—Wholesale price list of peonies, in which about 200 varieties, classified according to color, are offered. The stock is described as 3 to 5-eye divisions from 3-year-old plants. Cut flower collections are also listed.

Edward Auten, Jr., Princeville, Ill.—Price list of standard varieties and Auten originations in peonies for the 1935 season. Wholesale prices are given in a separate folder.

Herbst Bros., Inc., New York—Catalogue of seeds for nursery planting offered by T. Sakata & Co., Yokohama, Japan. Items listed include seeds of conifers, deciduous trees and shrubs, lilies, lilies, perennials, palms and annuals. Specialties are all-double petunias, fragrant panicles, flowering cherries, an extra-early flowering platycodon and flowering kale.

Inter-State Nurseries, Hamburg, Ia.—Retail broadside, featuring in four colors timely planting material, such as Dutch bulbs, peonies, perennials, lilies, etc.

Cottage Gardens, Lansing, Mich.—"The Peony. Flower of Romance," an especially attractive presentation of a few of this firm's specialties, such as tree and herbaceous peonies, French lilies, flowering cherries, etc. Offset printing with carbon ink makes the catalogue distinctive. Of particular interest are five new peony introductions by Abraham Nieuwenhuizen, also a fine list of tree peonies.

Joseph F. Martin Co., Painesville, O.—Wholesale perennial plant catalogue, supplemented by offers of perennial seeds, shrubs and growers' supplies. The list is exceptionally complete and up-to-date. Featured are several new items, including a double-flowering daisy, White Swan, and good selections of dianthus, trolleuses, hardy chrysanthemums, phloxes and peonies. A special section is devoted to reproductions of basket

arrangements made from perennial materials. Besides perennial seeds, seeds for greenhouse crops are offered.

Conard-Fyle Co., West Grove, Pa.—Catalogue of Star roses, with five pages devoted to novelties. Seventy-three standard kinds are novelties for fall planting. The illustrations are in full color throughout, with a reproduction of Rouge Mallerin on the front cover and of Feu Pernet-Ducher on the back. Two pages are given to perennials.

H. L. Fox Nursery & Landscape Service, Elkhart, Ind.—Wholesale listing of perennials, hardy chrysanthemums and lilies.

Charles Fiore Nurseries, Prairie View, Ill.—General nursery catalogue, offering a retail listing of a wide variety of shrubs, trees and perennials suitable for landscaping work, which is a specialty of the firm. A monastery garden scene decorates the front cover.

Henry A. Dreer, Philadelphia—Wholesale price list for florists, offering bulbs, plants, seeds and sundries. While having a new white cover printed in green, the catalogue is arranged in similar fashion to the former editions, with attention directed strongly to the many novelties in various florists' lines. A description of the extensive Dreer establishment, with an invitation to visit it, appears inside the front cover.

Fair Chance Farm, Beloit, Kan.—Annual listing of lilies, peonies and poppies. A group of fall-blooming lilies numbers about twelve varieties. Altogether, about 600 varieties of the items mentioned appear. Melvin G. Geiser is proprietor of the farm.

Fairview Evergreen Nurseries, Fairview, Pa.—Wholesale list of general nursery stock, including evergreen and deciduous material for lining out, as well as specimens. Represented are trees, shrubs, perennials and vines. The firm calls attention to several specialties and mentions that various items among the broad-leaved evergreens are nursery-grown. Common names for varieties are given rather generally. Views of the firm's plantings illustrate the catalogue, which is neatly printed.

Herbaceous Perennials

C. W. Wood Comments on Less Common Varieties of Hardy Plants Deserving Attention

TWO AMERICAN SCUTELLARIAS.

Like silene, scutellaria is a mighty clan (botanists describing something like 150 species) of weeds and a few really good garden plants. America has two good species, *S. resinosa* and *S. Brittonii*, now seldom even mentioned in literature, which will not disappoint you in any way. The few growers who list the plants have some confusion in naming them. Most of the lists call the white-lipped one *resinosa*, while Rydberg, the authority on plains and Rocky mountain plants, reverses the process, calling the white-lipped form *Brittonii* and the pure bluish purple one *resinosa*. Be that as it may, both plants are to be numbered among the champion long-time bloomers during the difficult part of the season. The blooms appear in June and usually last until autumn. *S. resinosa* and *S. Brittonii* are much-branched plants, growing to a height of about eight inches. Their foliage is good all during the growing season. Both plants are apparently easy to grow in sunny situations with good drainage and are to be grown from seeds.

ASTRAGALUS CAESPITOSUS.

Most astragaluses that I have grown have something to recommend them, even though it be no more than the lovely foliage in many cases. *Astragalus caespitosus*, however, is a good plant from all angles—foliage, flowers, habit of growth and garden behavior. This plant comes from dry hills and plains from Canada south to Colorado and Utah, which tells us that it is hardy and that it needs a dry, sunny situation. Given those conditions, it will form a compact mat of silky, silvery leaves, either entire or divided into three to five leaflets. The entire plant is not over two inches high. Sitting tight on such a background, the purplish flowers form a lovely picture from May until July. There is some confusion in the naming of this plant, due, no doubt, to the splitting up of the genus *astragalus* at the hands of some botanists. You will, therefore, find it listed as *Homalobus caespitosus* if you are a follower of Rydberg.

Although the culture of *astragalus* is easy enough after the plant is established—it can be grown from seeds—it is an entirely different matter to move the plants with any degree of satisfaction after they have attained much size. The exact reason for such a state of affairs is not apparent, though I have seen the theory advanced that the plants depend upon a semiparasitic organism, which is lost or disturbed in transplanting. In any event, they do not transplant readily, and the plant grower will probably find it is to his advantage to grow *astragaluses* in pots.

ASPERULA CAPITATA.

No alpine in my garden attracts more attention through spring, summer and autumn than *Asperula capitata*. When the snow departs, a furry mat of

leaves makes the first good impression; this is followed by an elongation of the stems, during which time the plant takes on a glossy appearance, and in late May or early June it is smothered in a sheet of small pink flowers. At no time is the plant over three inches high. I do not know the country of its origin and seldom see it mentioned in literature, but it is hardy in northern Michigan and is easily grown on a north or east slope or in light shade. It could also undoubtedly stand full sun, if the situation was not too dry. The plant is easily grown from seeds.

A FEW SILENES.

It is not the intention to cover here the entire genus *silene*, or even a major portion of it, but the blooming season of the *silenes* has brought a few facts to mind which may be of use at this time. The genus, taken as a whole, is not a brilliant one, a majority of the 400 or so species being of little garden value. There are, of course, brilliant exceptions to the rule, as witness *S. californica*, *S. Hookeri* and *S. laciniata*, all of which are tender and, therefore, of no use to us in the extreme north. There remain not a few good ones of easy culture which could be more prominent in the garden than is now the case.

Three species native to eastern United States, *S. pennsylvanica*, *S. virginica* and *S. Wherryi*, are good enough to find a place in every plant grower's list. This is especially true in the case

of the neighborhood nursery where plants are bought on sight, for any one of these three varieties will sell itself when it is in bloom. No *silene* that I know, except the weedy ones, moves with perfect ease, although the three mentioned come as near to being easily handled as any of them. Even with them, however, better results will be obtained if you can arrange to grow your sale stock in pots. The process is not difficult in ordinary frames, without the use of a greenhouse. These *silenes* grow readily from cuttings taken in summer or from seeds when the latter are available.

Much has been said and written about *S. pennsylvanica* that would indicate difficult culture if one did not know better from experience. Nothing could be farther from the truth, however, for this plant will grow freely in almost any well drained position assigned it, provided a little care is taken to get it established. It grows well in my northern location in sun or shade and in rich soil or poor. There was a time when I thought that it must have an acid soil, and though it still appears that at least slight acidity makes for more vigorous growth, I am no longer thoroughly convinced that it is a necessity. The plant makes a tuft of long-petioled, usually spatulate leaves, from which spring 6-inch stems ending in cymes of brilliant rose-pink flowers, which appear in May and June.

S. Wherryi is close to the foregoing, though the plant is somewhat smaller and the flowers are much larger, more numerous and of a deep salmon pink. It is easier to grow than *S. pennsylvanica*, doing well in any ordinary garden soil in sun or light shade. It is said to be a sun lover in its native hills of Kentucky, but it suffers here in north Michigan during the hot summer unless given slight shade.

S. virginica is the most erratic of the three, or at least has so behaved

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in my garden. The brilliant scarlet stars, which are produced from June until August, are reward enough, however, for the little trouble it will take to find its needs for your particular conditions. It does best here in slight shade in well drained soil that is on the sterile side.

We now pass to the Old World to examine a few of its best offerings. First alphabetically and close to the head in point of value comes *S. alpestris*. It has been mentioned before in this column and so needs no extended comment at this time except that it is among the best of easy rock garden plants and a sure-fire seller in the neighborhood nursery.

A plant that came to me a few years ago as *S. pudibunda*, but is also known as *S. quadrifida pudibunda*, *S. quadridentata pudibunda* and *Heliosperma pudibunda*, has everything that is required for an outstanding rock plant. It is small, growing two to three inches high, the thread-like stems being furnished with tiny, glossy leaves, making a flat mat which insinuates itself between rocks in a pleasing manner. If the garden value of a plant is to be measured by the length of blooming period, this silene will be numbered among the elite, for it blooms here from June until frost—not a few scattered flowers, as is so often the case, but rather a continuous display. As it grows here—and I have grown it from seeds from at least four sources—the blooms are pure white when they first open and later change to a light pink, both colors being on the same plant simultaneously. This point is mentioned because one reads in some European lists that the flower color is rose-pink. The plants do not move easily after they have attained much size, but the process is not difficult when they are small or grown in pots. I have not tried this variety in all the situations favored by alpine catchflies, so cannot pass final judgment on its culture. However, it does well in northern Michigan on a north slope among rocks, where it has a cool root run and sun during all except the middle of the day.

Silene maritima, although well known, is all too seldom accepted at its true worth. Even if it never flowered—which it does, of course, for a long period from late May onward—its blue green foliage would be an ornament in any garden. And it is wholly easy to grow, thriving in any dry, sunny spot. Its double-flowered form is desirable, and the variety *rosea*, with rose-colored flowers, is useful for variation from the typical white.

E. O. LITTLE, who was part owner, and Barron Helbert have taken over the Auburn Nursery, Auburn, Ind., from the estate of the late Vern F. King. Mr. Helbert is in charge of the enterprise.

THE Barrows Grass Nurseries, Minneapolis, Minn., have been awarded plant patent No. 143 for their new strain of bent grass, to be distributed under the name of North Woods. The date of release is set for October 1.

THE Augusta Nurseries, Mount Sidney, Va., were recently sold to D. R. Fauver, Lynchburg, Va., by Col. T. J. and Major C. S. Roller, Fort Defiance, Va. The nurseries were founded nearly a half-century ago by N. L. Shreckhise, who died in 1934.

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7.5 La Tulipe, lilac white...	.20	1.50	10.00
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7.6 Lord Kitchener, early red	.25	2.00	15.00
8.5 Mme. Emile Galle, pink	.30	1.50	10.00
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8.4 Marguerite Gerard, pink	.15	1.20	8.00
8.3 Marie Jacquin, glossy white	.20	1.50	10.00
Officialis Rubro-plena, red	.35	3.00	25.00
Officialis Tenuifolia, double red	1.00	9.00	80.00
7.6 Pierre Dessert, crimson	.20	1.50	12.00
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8.6 Primevere, sulphur-yellow	.35	3.00	25.00
8.7 Reine Hortense, large pink	.20	1.50	12.00
7.2 Rubra Superba, deep red	.25	2.00	15.00
9.0 Sarah Bernhardt, mauve rose	.25	2.00	15.00
8.7 Solange, waxy white...	.35	3.00	25.00
9.7 Tourangelle, pearly white	.40	3.50	30.00
9.3 Walter Faxon, rose-pink	.60	5.50	50.00
White Mixed, per 1000, \$50.00	1.00	7.00	
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MAGNOLIAS FROM SEEDS.

I am experiencing considerable difficulty in growing magnolias from seeds. They have a tendency to rot before germinating. I have tried fall sowing and spring sowing and variations of the two without success, except on one occasion. I shall be glad to receive any suggestions, also, as to storing the seeds.

F. M.—Ill.

Magnolia seeds are inclosed in a fleshy fruit, which is gummy inside. It is dangerous to let the pulp rot away, as the fungus which causes the pulp to decay spreads through the seed coat and into the seed. Soak the seeds for a few days in pure water or in water to which a little washing soda or wood ashes has been added. Then remove the pulp by rubbing the seeds with the hands or through a fine sieve. It may be well then to treat the seeds with one of the organic mercury disinfectants. Sow the seeds in a frame or in flats in the fall. Germination should take place in the spring. When the second leaf appears, pot the seedlings and carry them in frames. Do not store the seeds dry, but keep them in moist sand until planting time.

ROSE CHAFERS ON PEONIES.

Every year we have trouble with rose bugs on peonies. Can you tell us what to use for these pests another season? We want something that will not disfigure the petals and foliage.

P. B.—N. Y.

The rose chafer, or the rose bug as it is sometimes known, is one of the most difficult pests to control in the garden, because of its habit of feeding on the open flowers and burrowing down into the blooms and buds. Because of this

peculiarity, stomach poison sprays cannot be used effectively. Spraying with one of the good contact insecticides, such as the pyrethrum or rotenone preparations, will kill all the beetles that are wet, but it is necessary to spray repeatedly in order to get a satisfactory control. Barium fluosilicate dust is effective in the control of pests of this type, too.

Hand-picking the rose beetles is practical when only a few of the flowers are affected. The beetles may also be jarred into buckets containing water with a little kerosene in it. Choice plants may be protected by inclosing them in coarse mosquito netting.

Since the overwintering larvæ pupate in April and May and since the pupæ are killed easily by disturbing the soil, thoroughly working all of the ground that may serve as breeding places during May and June, depending upon the locality, is recommended.

CONTROLLING PEONY BLIGHTS.

Several of our customers have asked about their peonies, the leaves of which turn black without any apparent reason. If you suggest the cause and remedy, they will be greatly appreciated.

F. G.—Ill.

In all probability, the trouble is botrytis blight or phytophthora blight, which are the commonest diseases of peonies, the causative organisms being present wherever the host is grown. The diseases are frequently epidemic in wet seasons. Since the control measures are the same for both troubles, it will be unnecessary to worry about the diagnosis.

In effecting a control of these diseases, all stalks should be cut close to the ground in the fall and burned. If the clumps are mulched, the mulch should be removed early in the spring in order to prevent ex-

cessively damp conditions about the young, developing stalks. If manure is used as a fertilizer, it should be worked into the soil and not allowed to come into contact with the new growth.

In cases where severe trouble has been experienced during past seasons, it would be well to remove the top two inches of soil and replace it with fresh soil. A sand top-dressing will aid in allowing free circulation of air about the young shoots and in preventing excessive moisture about the stalks. The soil may also be sprinkled lightly with corrosive sublimate, 1 to 2,000, or with chlorophenol mercury preparations, as recommended by the manufacturer, to kill the spores on the soil surface. Prompt removal of infected shoots in the spring is advised in order to prevent the production of spores. Keeping the young growth as it emerges from the soil sprayed with Bordeaux mixture is often helpful as a preventive measure.

BLUEBERRIES FROM CUTTINGS.

Last spring I purchased three varieties of grafted blueberry plants that were quite expensive. I would like to know if the new shoots were cut off and rooted whether the new plants would produce as good berries as the original grafted specimens. If so, I would like to know the best way to propagate the plants.

A. L. S.—Wis.

Cuttings taken from the top growth of the grafted blueberry plants will reproduce the type; that is, they will produce the same kind of berries as those growing on the original plants. However, since the plants are grafted, you should take care not to use the shoots coming from the ground, as these are likely to be offshoots of the understock and would not have berries like those produced by the grafted part of the plant.

Softwood cuttings are often difficult to root because of the extreme heat during the summer. However, in your latitude you might be able to handle the cuttings satisfactorily. A propagating bed made in an outdoor cold-frame would probably serve best. It

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should be supplied with at least lath shade and possibly also with a muslin shade in addition. It might be necessary to keep the propagating bed covered with sash until the cuttings callus. A mixture of one part of acid peat and two parts of clean sand will probably be found better for rooting the cuttings than pure sand.

The sand used in the cutting bed should be clean, especially with reference to clay, bacteria, lime and salt. The peat should be either from a bog or upland, but should be formed from ericaceous plants (acid-loving plants, such as blueberries, cranberries and plants growing under allied conditions) and should be taken from near the surface. The water used should be free from lime; that is, it should be neutral or acid, rather than alkaline.

Complete details for propagating these plants by other methods, such as stumping, layering and tuberizing and with winter cuttings, as well as by budding, will be found in "The Nursery Manual," by L. H. Bailey.

PROPAGATE FIR BY GRAFTING.

I have never done any grafting and have the following problem on my hands: I have a beautiful specimen blue fir, which was the only real good blue out of a large quantity of seedlings of *Abies concolor*. What understock should I use? What time of the year should the grafting be performed? What temperature should I use for bottom heat in the case and what age or size of wood should I remove for grafting? The annual growth is about three and one-half to four and one-half inches long. The tree is about 22 years old, stands about eight feet high and is about six feet in diameter at the base. It has been transplanted regularly every three years; otherwise, it would be taller. At each transplanting the tip freezes out, but the splendid feature about this specimen is that it does not lose its lower branches when reset as the blue spruce so often does. Can it be propagated from cuttings like *Cedrus Deodara*?
A. J. H.—Ky.

The best understock to use is the concolor fir, *Abies concolor*. It should be 2 to 3-year-old seedling size, or stock that will run about the diameter of a lead pencil. Grafting is best performed during the months of January and February. A side graft is used, and the grafts are handled the same as any evergreen grafts. This means that they are placed in a closed frame with bottom heat of 65 to 75 degrees. Callusing should occur in about six weeks, when the plants should be given a little air. At the end of about eight or nine weeks, the grafts should be ready to take from the frames and can be set upon a bench at that time. They should be kept in a fairly warm house at first, so that they will have an opportunity to adapt themselves to the exposed position.

The results of trying to propagate the concolor fir from cuttings are too variable to be depended upon in a commercial way. My experience in growing concolor fir from cuttings has been rather disappointing. Occasionally as high as sixty to seventy per cent of the cuttings will root, but this is not often. Grafting is by far the best method of propagation. Scions of the last season's growth should be used for grafting.
L. C. Chadwick.

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CHERRY YELLOW-LEAF CONTROL.

Tests Made on Nursery Stock in Iowa.

Bordeaux mixture is the most effective and reliable control of cherry yellow-leaf on nursery stock, according to experiments conducted by George L. McNew and Donald E. Bliss, of the Iowa agricultural experiment station, Ames, and reported in detail in this station's bulletin No. 332, entitled "Control of Cherry Yellow-leaf on Nursery Stock."

Yellow-leaf, caused by the fungus *Coccomyces hiemalis* (Higgins) is the most prevalent and destructive cherry disease in Iowa, since it often causes premature defoliation of both nursery and orchard trees. Early defoliation in nursery stock results in decreased growth during the current and subsequent years and precludes all possibility of forcing the trees into marketable size in one growing season, according to the authors.

They state further that all defoliated nursery stock must be held in the nursery row a second season, and even then many of the trees must be marketed at lower grades because of inferior size.

Winterkilling in severely defoliated blocks is so common that yellow-leaf becomes the limiting factor in cherry culture.

The life history and seasonal development of the organism are then presented, followed by details of the materials and methods used. Data are also given regarding the difference of growth of sprayed and unsprayed trees, the net profit derived from spraying cherries and the relative effectiveness of different spray and dust materials. In conclusion, the authors summarize their findings as follows:

Sprayed trees grow more than unsprayed ones because the fungicide prevents defoliation by the fungus *Coccomyces hiemalis*. Trees sprayed with some of the better fungicides, such as Bordeaux mixture, grew more than unsprayed trees even though the fungicide retarded growth.

Bordeaux Found Best.

All of the fungicides used which were not seriously injurious to the young trees showed some benefit. Only home-made Bordeaux mixture 4-6-50 showed profitable and consistent gains. Although Kolodust was satisfactory during one season and did not appear to retard growth as did Bordeaux mixture, the former failed when substituted for Bordeaux during a period of heavy rainfall.

The effectiveness of Bordeaux mixture was improved by the addition of a spreader such as casein, fluxit fixator, rosin-fish oil soap or oil emulsion. Although trees sprayed with the fungicide and a spreader showed more increase in height at the end of the first growing season than those sprayed with the fungicide alone, the differences were less pronounced by the end of the following season.

Trees ordinarily should be sprayed about once every ten days, depending upon weather conditions, from the time the plants are six to twelve inches high (about May 15) until the growing season is about over (August 15 to 30). In 1930 spraying was discontinued in July, but in all other years it was necessary to continue until the middle of August or later.

Sprays appear, in general, to be more

desirable than dusts because the former are less easily removed by rain. Dusts are more easily applied, but their practical use seems to be confined to seasons of light infection.

Kolodust, a sulphur dust, was the most desirable dust used in these trials. It was as effective as Bordeaux in 1931 when the rainfall was light.

Spore dispersal from old leaves under the trees in early spring and from infected leaves on the trees during the summer occurs during rainstorms. The purpose of spraying should be to cover the entire leaf area with an effective fungicide before spore dispersals occur.

Since the fungicide sold under any trade name may be varied by the manufacturer, the data presented in this bulletin cannot be applied to the commercial mixtures beyond the years in which they were used. (1929 to 1932, inclusive, though some preliminary work was done during 1927-1928.) The grower should check the analysis of any of the materials offered to him under the trade names reported in this bulletin and compare it with that given.

The 30-page bulletin is profusely illustrated with half-tones, line drawings and charts, besides many tables. It is dated June, 1935. Acknowledgment is made to the Mount Arbor Nurseries and the Shenandoah Nurseries, both of Shenandoah, Ia., for supplying all the plant materials and rendering financial assistance until the work was organized as a state project.

CORYDALIS LUTEA.

In *Corydalis lutea*, a fumituary from southern Europe, we have a plant of much importance to the gardener, though its rarity in American plantings would indicate just the reverse. It is a plant that you can handle as you please

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and it will keep right on smiling in its friendly way. Sun or shade, rich soil or poor, it is all the same to *C. lutea*. That it is sometimes short-lived in the garden is of little importance, for it usually self-sows to perpetuate the beauty of its kind. It is a ferny little plant with pale green, 2 to 3-lobed leaves and racemes of pale yellow Dutchman's-breeches flowers from spring until autumn, the entire plant not over eight inches high. The value of the plant lies not alone in its foliage and flowers, which are present and presentable throughout the growing year, but in its ease of culture as well. It is to be grown from seeds, which are slow to germinate and which sometimes refuse to do so at all for me. Fall sowing is to be preferred.

C. W. W.

BUSINESS EMBARRASSMENTS.

Los Angeles, Cal.—By a petition in bankruptcy under paragraph 77B, filed July 25, Howard & Smith, Inc., sought a reorganization of the corporation, on which the first hearing was held August 19. At the hearing, the judge continued the corporation in sole charge, appointing no receiver, and set October 28 as the time by which a feasible plan of reorganization should be submitted.

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OBITUARY.

Charles W. Morey.

Charles W. Morey, owner of the Woonsocket Hill Nurseries, Woonsocket, R. I., and a prominent sportsman, died Tuesday, August 27, at his home in Woonsocket after an illness of several months.

Born in Woonsocket, the son of Frank and Mary (Arseneault) Morey, he had always lived in that city. He was interested in political life and at one time was moderator for his district. He was tree warden of the city at the time of his death.

Mr. Morey became identified with the florists' and nursery industry as a youth, becoming especially active in the nursery business. He was a past president of the Rhode Island Nurserymen's Association and of the Rhode Island Arborists' Association and was a member of the Massachusetts Nurserymen's Association, the New England Nurserymen's Association, the National Shade Tree Conference, the Rhode Island Horticultural Society and the Rhode Island Agricultural conference. He is survived by his widow and one daughter.

At the funeral, which was solemnized August 28 by a solemn high mass of requiem, conducted in the Holy Family church, with burial in the Precious Blood cemetery, there was a large attendance of nurserymen and florists from all parts of New England. The Rhode Island Nurserymen's Association was represented by Charles H. Groaton, president; Hugo deWildt, vice-president; V. A. Varicek, secretary; William A. Hollingsworth, treasurer; K. J. Murphy, and C. Hoogendoorn.

Frank Meyer.

Frank Meyer, nurseryman of Huntington, N. Y., died suddenly at his home there August 20, in his fifty-sixth year.

Mr. Meyer was born at Middle Village, a son of Mr. and Mrs. John Meyer.

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Oberlin Peony Gardens, Sinking Spring, Pa.

Austrian Pine, 3 to 4 ft. and 2 to 3 ft. Have surplus of 800. Trees are healthy, well developed and have been three times transplanted. Make an offer.

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B. & B. Irrigating System, Port Clinton, Ohio.

In 1910, he was married to Miss Anna Tanges, Nesconset, where they lived until going to Huntington seven years ago.

Mr. Meyer is survived by his widow; a son, Frank, and a daughter, Marie, and a sister, Mrs. Johanna Wirth, Nesconset. Funeral services were held August 22, at Mr. Meyer's late home, with burial at Melville cemetery.

BANDING TREES FOR INSECTS.

Banding trees has a strong hold on popular imagination. The general prevalence of cankerworms in southern New England and areas about New York city has resulted in considerable banding to protect trees from cankerworms. The bands, properly applied and kept in good condition, are not injurious to the trees and in many cases give a measurable degree of protection. Frequently they are not kept sticky during the entire period when the females are crawling. Occasionally injurious materials are used on the bands and the killing of valuable trees results, states E. Porter Felt, of the Bartlett Tree Research Laboratories, Stamford, Conn.

There have been, in the last few years, extensive experiments with tree bands for the control of the codling moth in apple orchards. These, as in the case of the bands for cankerworms, give a certain amount of control. Attention has just been called to a somewhat general and apparently indiscriminate recommendation of codling moth bands for various trees, such as beech, Norway maple, red maples, silver maples and tulip trees. The claim, hardly substantiated by the facts, is made that these bands control any insects which may desire to crawl up the trunk of a tree at any time of the year. There appears to be nothing sufficiently active in the bands to kill insects on or under them for a short time. The idea appears to be based on the notion that a band effective against codling-moth larvae may be equally valuable for the control of other insects. The situation reminds the writer of an occurrence many years ago. A well meaning but misguided individual on a very hot day climbed four exceptionally high flights of stairs to suggest sticky bands on the trunks of elm trees for the control of the elm leaf beetle. The intent was laudable. Unfortunately, elm leaf beetles have been and still are in the habit of flying into the trees, and the sticky bands are of little value in controlling the insects.

The general banding of trees with materials supposed to be effective at all seasons and against most insects crawling up the tree is not different from the case just cited. Banding can be recommended only for specific purposes and under certain conditions.

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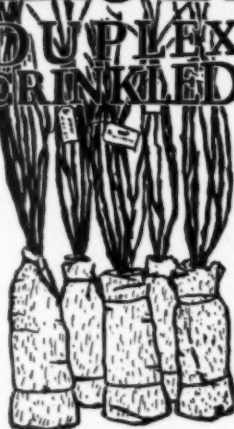
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Our equipment was very simple—nowadays it would be called primitive. Our policy was just as simple, but far more important. For a good policy endures, while equipment wears out.

That policy was—and still is—to offer honest values, honestly described; to market distinctive and better products; to constantly work towards their improvement; to sell them at fair prices; and to render efficient service.

September Trade Bulletin

For the coming season, we will have, as usual, a complete stock of all Tree Seed available.

We would like to impress on all nurserymen the importance of placing their orders early so as to insure full delivery.

Remember—it is not a seed-bed until planted with KATZENSTEIN'S Quality Seed.

Write for your copy today!

THIRTY-EIGHT years have passed, and 38 years is a pretty good age in business as young as the Tree Seed business. This Company has grown to be a major factor in the industry. We have a large force of collectors at work, and an extensive marketing system from Maine to Florida and inland in the United States and in 96 foreign countries. But what we value most of all—and what has made KATZENSTEIN'S the largest TREE SEED COMPANY in the UNITED STATES—is our splendid organization and the fine public good-will towards us.

We sincerely thank all our associates, nurserymen, other customers and friends whose support and approval have made this 38th anniversary possible.

Katzenstein & Co.
America's Largest Tree Seed Specialists
Atlanta, Ga.

